**Unit 1 Objectives and Standards (Introduction to Biology)**

Ms. Ottolini, PreAP Biology, 2013-2014

**Standards:**

**VA SOL BIO 1:** The student will demonstrate an understanding of scientific reasoning, logic, and the nature of science by planning and conducting investigations in which

1. observations of living organisms are recorded in the lab and in the field;
2. hypotheses are formulated based on direct observations and information from scientific literature;
3. variables are defined and investigations are designed to test hypotheses;
4. graphing and arithmetic calculations are used as tools in data analysis;
5. conclusions are formed based on recorded quantitative and qualitative data;
6. sources of error inherent in experimental design are identified and discussed;
7. validity of data is determined;
8. chemicals and equipment are used in a safe manner;
9. appropriate technology including computers, graphing calculators, and probeware, is used for gathering and analyzing data, communicating results, modeling concepts, and simulating experimental conditions;
10. research utilizes scientific literature;

**What resources did I use to learn this information and/or master this skill?**

**Objectives:**

1. You will be able to identify and provide examples of the characteristics found in all living organisms
2. You will be able to create a testable hypothesis based on scientific literature and/or prior observation and design a safe and effective experiment to test this hypothesis. (BIO 1 b, c, h ,i, j)
3. You will be able to collect, organize, and analyze data. (BIO 1 a, d, f, g)
4. You will be able to draw relevant conclusions from scientific literature and/or experimental data and communicate your findings clearly and thoroughly (BIO 1 e, j)